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UNDER THE EDITORIAL DIRECTION OF

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Editorial Department.

Nephritis of Scarlet Fever.

THE one complication of scarlet fever, which is always grave, is nephritis. Whether it appears as an early feature of the disease, or is late in its manifestations, it always has about it that urgency which should put every physician upon his guard and demand close observation in order to give to it the consideration it deserves. Because the case of scarlet fever is mild is no reason why there should be the least relaxation of clinical oversight. It has been our experience that a severe nephritis may follow a mild attack of scarlatina.

It is well to adopt in every case the plan of routine examination of the urine, from the onset of the disease. The infrequency of nephritis fortunately gives to the patient the hope of freedom from this complication. However, sometimes case after case of scarlet fever, whether mild or severe in type, have nephritis as a feature, while at other times we may go through an epidemic without meeting it. The onset of the disease is usually sudden, or at least its recognition comes upon us suddenly, while the process itself may have come on insidiously.

If we watch for symptoms our vigilance will be rewarded by having the benefit of early and timely treatment. The history of chilliness with slight fever, vomiting and headache, with scanty urine (small quantities of dark, bloody urine) should at once proclaim the onset of the disease. Edema, localized or general, may occur, and be the first symptom to attract attention. An examination of the urine will reveal the presence of albumin, and blood corpuscles and casts, also decreased amount of urea. The diagnosis is being established treatment should at once be instituted. Water, plain or carbonated, is the sheet-anchor throughout the disease, and should be used from the very beginning of the rash in liberal quantities. Elimination is the theory of prevention as well as the practice when the disease is established. Hence, all avenues, the kidneys, the bowels and the skin should be called upon to contribute in some way in elimination.

It is well to remember just here that the kidney is the best route and when acting freely the function of the skin and bowels are lessened. Prolonged sweating or free purging are not advised when the kidney secretion is free. Elimination by the kidney route is best stimulated and kept free by the use of plain water. We have frequently added cream of tartar to the water with satisfaction.

If uremia threatens then hypodermoclysis is practiced—using normal salt solution hot, and injecting a pint or more. The Anderson apparatus (Sharp & Smith) is especially serviceable with children by reason of feeding rapidly and enabling the fluid to be diffused without much pain.

Enteroclysis may be practiced in an emergency, using the high rectal tube and irrigating fully a quart. To support the heart strychnia is advised, digitalis may be combined if used in small doses; in large doses it increases the tension of the pulse, and is thus apt to irritate the congested kidney.

Hot packs may be used to promote sweating in uremic conditions, and especially when edema is a feature. If the headache is severe, persistent and accompanied with nausea, calomel or calactose in small doses frequently repeated is indicated.

In brief, the treatment of nephritis is elimination, and during convalescence this must not be lost sight of. In addition the anemia must be treated, iron, arsenic and strychnia in tablet form, is a favorite prescription, and can be taken for a long time. The bowels must be kept open, and to this end the salines, phosphate of soda, or apenta water before breakfast is to be recommended. Proper warmth of the body should be maintained by use of woolen clothing, and as long as albumin is a clinical feature, the patient must be kept in the house, in a temperature of about 72° F. With the disappearance of the albumin a certain amount of open air exercise is advised and a well-regulated diet prescribed. The mineral waters like Apollinaris or a home-made carbo-mineral water, to which is added lime juice or lemon should be used during convalescence.

F. P. N.

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Intestinal Tuberculosis in Children; Its Relation to Bovine Tuberculosis.

ONE of the great questions raised during 1901 was that by Koch of the relation between human and bovine tuberculosis. A question of greatest importance, too, inasmuch as the frequency of tuberculosis in cattle must necessarily have a bearing upon the problem of infant feeding, as milk is the established basis of such diet. This subject has recently been carefully reviewed by Bovaird (*Archives of Pediatrics*, December, 1901), who in his study of the literature presents an exhaustive resume of the opinions of authorities of today on this important subject. The conclusions he draws from his investigations are:

1. That English reports alone show any considerable number of cases of primary intestinal tuberculosis.

2. That primary intestinal tuberculosis is a very rare affection among children in or about New York, little more than 1 per cent of the cases of tuberculosis having this origin.

3. That the proportion of tuberculous cases found at autopsies in New York is lower than that of European observers.

4. That the evidence connecting tuberculosis among children with the consumption of the milk of tuberculosis cases is very scant.

OUR MONTHLY QUIZ.

Prizes Open to Fortnightly Subscribers.

TOPIC FOR FEBRUARY.

1. How do you treat the pernicious vomiting of pregnancy (medical and hygienic treatment)?

TOPIC FOR MARCH.

2. How do you treat the rheumatic affections, viz.: Rheumatic fever, sub-acute and chronic rheumatism?

Answers should reach this office not later than the 15th of the month. Questions for discussion in this department are announced once a month.

For the best and most practical answer to any one of these questions we will give a prize of $5.00. To the second best a subscription to the FORTNIGHTLY for the year. The answers must be short, no one answer to contain more than four hundred words. We shall publish the substance of such of the answers as seem most likely to prove interesting to our readers.

Only subscribers to the FORTNIGHTLY will be recognized as competing (although we shall be pleased to hear from others who have ideas to suggest), and all persons known to be engaged in medical journalism are disqualified. Prizes will not be awarded to the same person more than once each year. Every answer must be accompanied by the writer's full name and address.

The Reports on McKinley's Assassin.

THE leading weekly medical journals of New York City published in their issue of January 4th two papers that are to be historical, one by MacDonald on the "Trial, Execution, Autopsy and Mental Status of Czolgosz" and a "Report of the Post-mortem Examination," by Spitzka. We now have complete reports on all of medical interest pertaining to this great National calamity. McKinley truly was a victim to that blot on civilization, anarchism. The report of MacDonald, based on the study of the assassin under all circumstances pertaining to the crime, concludes as follows: "The writer, having reviewed the case in all its aspects, with due regard to the bearing and significance of every fact and circumstance relative thereto that was accessible to him, records his opinion unqualifiedly that Leon F. Czolgosz on September 6, 1901, when he assassinated President McKinley, was in all respects a sane man, both legally and medically, and fully responsible for his act." MacDonald believes that the assassin was simply following the anarchist's creed, and his acts throughout confirmed this belief. "The anarchist's creed teaches that when one of their number is selected to do a certain deed, he is to proceed about it quietly and in his own way, taking no one into his confidence; that, having accomplished the deed, if appre-

hended, he will not admit his connection with any other members of the circle; that if convicted and sentenced to die, he should go to his death without revealing his connection with others, resting secure in the belief that he will be ever regarded by his associates as a martyr and hero, who died in the noble discharge of his duty."

This certainly is a creed that makes us shudder, and one that surely needs radical measures to thwart, lest its growth in this fair country of ours be called again and again to weep o'er the remains of loved and trusted officials, doomed by this enemy of National liberty to suffer because of imagined opposition to the beliefs which it harbors.

It is a great credit to scientific research, to American psychiatry, to read such an exhaustive report as that of Spitzka on the post-mortem finding in the case. His detail was thorough; his technique on the brain examination superb, and all in all it is such a report as will carry weight and give dignity to the much abused study of criminology. Spitzka has in this study shown that he is a worthy son of a worthy father, and bears a name which American medicine delights to honor. In his conclusions as to the correlation of brain structure and brain function, he says nothing has been found in the brain of this assassin that would condone his crime for the reason of mental disease due to intrinsic cerebral defect or distortion. He summarizes tersely in the following words: Taking all in all, the verdict must be, "socially diseased and perverted, but not mentally diseased." "The most horrible violations of human law cannot always be condoned by the plea of insanity." F. P. N.

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Unrecognized Syphilis in General Practice.

EVERY physician is confronted with the clinical problems of syphilis. Problems, too, which often try his diagnostic acumen and enforce responsibilities in his care of the patient. L. Duncan Bulkley in a most valuable paper considers this subject in a masterly manner (International Medical Journal, December, 1901). The points made in this paper are as follows:

1st. Syphilis is certainly not a venereal disease in all cases, and the absence of any history of sexual exposure should never throw one off the guard, when there is reasonable evidence of the existence of the disease. In addition to the large number of instances of innocent marital and hereditary syphilis, there are certain number of cases of extra-genital chancre, which must always be reckoned on when confronted with possible syphilis. Among a large number of cases of chancre which I collected from the clinics of Europe, extra-genital chancre was found to make nearly 6 per cent among the males and almost 12 per cent among the females. Fournier, of Paris, found that in his practice about 25 per cent of the females had acquired the disease in a perfectly innocent manner, while in my own private practice a careful study of the notes of cases shows that in 50 per cent of females syphilis was innocently acquired. Allusion has already been made to the fact that in my experience extra-genital chancre is more common in males than in females. The

question, therefore, of venereal exposure need not always be of importance in acquiring syphilis, and often those of the purest character may require careful and prolonged anti-syphilitic treatment.

2d. Syphilis is often a very erratic disease and it is sometimes difficult to get a satisfactory corroborative history. Not only may previous symptoms have been prevented or held in check by treatment; but even if left to itself some of the early manifestations may be very slight and escape notice, yet be followed by serious lesions. This is particularly the case in women.

3d. Many cases of unrecognized syphilis have very severe later symptoms, involving great destruction of tissue and severe lesions of internal organs. This is due to the absence of previous controlling treatment. It has been a common remark that syphilis acquired by means of an extra-genital chancre was apt to be of a very severe character. It is furthermore these cases which are often overlooked.

4th. Syphilis is such an imitator of other disease that its presence may often be suspected when they present unusual or peculiar features. In such cases, careful study and analysis will often serve to determine the the true nature of the trouble, but it may be difficult to obtain a perfectly satisfactory corroborative history. In many instances of late syphilis from innocent infection the sufferers do not at all suspect the nature of their disease.

5th. As many of the late, often unrecognized, lesions of syphilis are the result of imperfectly treated early syphilis, it is desirable that the general profession and the laity be thoroughly convinced of the necessity of careful and prolonged treatment to cure the disease. Too often syphilis is treated in a superficial and hasty manner, which is neglected as soon as the symptoms disappear. According to all modern experience and opinion, this is wrong, the physicians should see to it that patients receive proper treatment for at least two years, in the manner now accepted and fully described in writings on the subject.

Syphilis is a great, a very great disease, much more common than is supposed by many, and is worthy of the most careful study and consideration. While its manifestations are sometimes difficult to determine, there is no reason why with sufficient care and patience in its study and treatment there should not be fewer cases of unrecognized syphilis in general practice.

REMOVED TO NEW YORK.—*The American Medical Journalist,* which for several years has been published at St. Joseph by Dr. Chas. Wood Fassett, has removed its office of publication to New York City, and will hereafter be issued by Mr. L. M. Heilbrun, in connection with his Medical Journal Agency. The editorial staff of the *Journalist* will remain practically the same as at present. With an enlarged scope, a better field, and the added energy which Mr. Heilbrun brings to the work, this unique publication will soon reach the successful position to which its founder and editor aspired.

CITY CULLINGS.

ANTISEPTIC SPHENOIDS.—Mrs. J. C. Klug, representing the McCoy-Howe Co., has just completed a sojourn in St. Louis, during which she did good work for antiseptic sphenoids, making many new friends and strengthening the interest of those who were already somewhat familiar with this valuable agent. Mrs. Klug is now working the larger towns to the South with New Orleans as an objective point.

THE FAITH HOME CLOSED.—For some time a home for children has been conducted on North Garrison avenue by some religious enthusiasts whose faith has been developed to, what appears to an outsider, a condition bordering on mental abnormality. Some forty children were housed and fed at the home. Recently two cases of death have occurred in this home where neglect of ordinary precautions and the withholding of medical attention were shown. Investigation by the authorities has resulted in the closing of the home, ostensibly because of its unsanitary condition.

THE WORLD'S FAIR.—The severe weather during the middle of December made the breaking of ground for the World's Fair a rather chilly function. It had been planned to make this an occasion of considerable pomp and ceremony, but with the thermometer down several degrees below zero dynamite seems more apropos than a spade, and the desideratum of formalities is characterized by its brevity. Still a few hundred enthusiasts braved the cold and the ground is broken for the greatest exposition the world has ever seen. To outsiders there seems to have been little doing towards making a fair; many people must hear the noise of the hammer and the shout of the driver before they can believe that work is begun. The great mass of routine and preparatory work which has been accomplished by the officials of the Fair does not appear on the surface, but it is of a nature to make things hum when the weather will permit artisans to work.

TRANSIT CAR ACCIDENTS.—The public generally has been having a taste of abominable street car service during recent months, we have yet to meet the man who is not an official of the company who can see any good in present conditions, or has much hopes for the future. Wretched as the service is, there is a more deplorable side to the picture; there were seventy-five persons killed by cars during the past year, while the number permanently crippled and temporarily injured is proportionately large. A transit car is no respecter of persons, the infant and the aged, the rich and the poor, all classes have been victims. The working-classes are inclined to vent their just anger on the crews of the cars, but the great mass of these men are the unfortunate agents of the officials of the company; they are given an almost impossible task, in attempting to do the work laid out for them accidents must happen, and the blame is, except in rare cases, a matter for which the officials should be held responsible. Unless there is some legal curb put on the company, we would hate to predict to what the just indignation of an outraged public may lead.

THE ST. LOUIS MEDICAL SOCIETY ELECTION.—At its annual meeting on the 28th of December the St. Louis Medical Society elected officers for the present year. As is usual at this meeting the attendance was large, many being present who seldom so favor the society. The reports of the President and Treasurer indicated that 1901 was a prosperous year in all lines of the society's work. President Newman recommended several radical changes in the policy of the society which his experience during his term of office prompted, the most important of these purposes the presentation of the programme as published each week, to this end President Newman would have papers submitted to the committee previous to the publication of the programme. That the members of the society lay too little stress on an engagement to appear before it is a deplorable fact which should be remedied; it is hoped that a means to this end may be accomplished at an early date. The election was one of spirited interest; there appeared to be two distinct slates with especial thought for the presidency. The result would have been happy had either of the leading candidates been elected, the friendly attitude of all members was a pleasant feature of the election. The officers of 1902 are as follows: President, N. B. Carson; Vice-President, Spencer Graves; Recording Secretary, Louis Pim; Corresponding Secretary, J. C. Morfit; Treasurer, A. R. Kieffer.

AMONG THE MAGAZINES

EUGENE FIELD'S POEMS IN PICTURES.—"The Patron Saint of Childhood" is Eugene Field's title in some parts of this land, and in Missouri the schoolchildren set aside one day each year in which to honor his memory. Few poets have ever cared so much for children as did he, and for this reason the announcement made by *The Ladies' Home Journal* that Mr. Maxfield Parrish is to picture some of Field's best-loved poems for that magazine should be a pleasurable one, especially for little folks. Mr. Parrish has a place in the first rank of living illustrators, and his sympathy with the idea assures unusual effort. Among the poems which will be "painted" are "Little Boy Blue," "Seein' Things at Night," "A Little Peach in an Orchard Grew," and "Wynken and Blynken and Nod." Each reproduction will occupy a full page of *The Journal*.

THE JANUARY ST. NICHOLAS.—If Emerson, whose advice was, "Hitch your wagon to a star," had said, instead, "Hitch your clock-work to a star," he would have prophesied just what is done all over the country nowadays. In several large observatories correct time is kept by the transit of a particular star across the meridian, and transmitted automatically by telegraph to points hundreds of miles distant. Many interesting facts in this connection, about the "Master Clock" at Washington, time-balls, etc., are given in an article by W. S. Harwood in *St. Nicholas* for January, entitled "How We Set Our Watches by a Star," with illustrations showing how the work is done. The long story this month is "The Wyndham Girls," by Mary Ames Taggart. Girls especially will enjoy the account of

these three young heroines who, suddenly brought to face a trying situation, show themselves brave, cheery, and capable despite lack of preparation; but boy-readers, too, will be sure to vote the "Wyndham Girls" delightful friends. A touch of romance adds a pleasant flavor. Other fiction is to be found in "Uncle John, Mind-Reader," by Ethel D. Puffer; "Frank Benson's Automobile," by Frank S. Ballard, and the current instalment of John Bennett's "Story of Barnaby Lee."

"Virchow, a Hero of Modern Progress" is the title of the sketch of the career of Dr. Rudolph Virchow, the great German pathologist and publicist, which appears in the December *Review of Reviews*. Professor Virchow's eightieth birthday occurred in October last, and on that occasion some of the most eminent physiologists and anatomists in the world took part in the celebration at Berlin. Dr. Virchow has been a member of the Berlin City Council and of the Prussian Landtag for a period of forty years.

ARE England, Scotland and Ireland, destined, ultimately, to become a part of "The United States of America and Great Britain"? is the startling inquiry which William T. Stead, makes in the January *Cosmopolitan*. He has been one of the prophets of Great Britain, and has, at all times, been able to see in advance of his contemporaries—as events have proven. He has been studying the new conditions brought about by the industrial combinations and reaches the conclusion that England and the United States are destined to be more closely united and that as soon as the English people wake up to the absurdity and general uselessness, as has been shown in the Boer War, of a king and aristocracy, the trend will be immediate in the direction of a union with the people of the United States. However much one may differ from Mr. Stead, his speculations will be found vastly interesting. He is the first British subject who has had the courage to suggest such an outcome.

ROOSEVELT THE REFORMER.—A good many semi-good people still think that "civil-service reform" is the hobby of a few overrighteous souls altogether too fine for the rough affairs of this world. These semi good people are semi-informed. Now here is a President familiar, if any man alive is, with the actualities and roughnesses of this world; rough ranching, rough riding, rough fighting, rough politics. And he is, and always has been, a civil-service reformer all the way through, because he knows that civil-service reform means the merit system, and the merit system means the death of the spoils system, and that civil-service reform therefore is founded not only in common sense and what the President is always calling "decency," but in common honesty and the true spirit of American institutions; and that if the country is to live and flourish and accomplish its mission, the merit system must prevail in every branch of our government, either by rule or in the spirit.—*The Century* for January.

THE MILWAUKEE POST-GRADUATE MEDICAL SCHOOL AND POLYCLINIC has been incorporated with a capital stock of $25,000 by Drs. William H. Earles, Walter H. Nelson and Warren B. Hill.

Original Department.

PAPERS for the Original Department should be in hand one month in advance, and contributed to THE MEDICAL FORTNIGHTLY exclusively. A liberal number of extra copies will be furnished authors, and reprints may be obtained at reasonable rates, if request accompanies the manuscript. Engravings from photographs furnished free.

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Etiology and Incubation of Scarlet Fever.

BY CHAS. L. HAMILTON, M. D.,

DWIGHT, ILL.

Read before the Livingston County Medical Society.

ACCORDING to Osler, "we owe the recognition of scarlet fever to Sydenham, before whose time it was confounded with measles. It is a wide-spread affection, occurring in nearly all parts of the globe and attacking all races."

Its causes are, of course, both predisposing and exciting. Very few in our profession to-day deny that the exciting or true cause of scarlet fever is a germ, and whatever the contagious principle, so pronounced is its character, that even a moment in the presence of a scarlet fever case, may be sufficient to reproduce the disease in a susceptible individual. Several claims have been put forth regarding the isolation of the scarlet fever germ. In 1882, Echlund claimed to have found its specific germ in the urine of scarlet fever patients, and also in certain soil and surface waters. Later, Klein claimed the cause was a streptococcus, which produces an eruption in swine similar to the scarlet fever eruption in the human being. Still later, Edington and Jamison isolated a germ which they found in the blood of scarlet fever patients on the first, second or third days only, and which reappeared again in the epidermis on the twenty-first day of the disease. W. J. Class, of Chicago, has discovered a micro-organism in scarlet fever cases, and claims it to be the specific scarlet fever germ. This he obtained from cultures from the epidermic scales and the throats of 300 patients affected with the disease. He claims its chief cultural characteristics to be its glutinous character, and that it is well marked in primary cultures of germs taken from the throat, growing a class of organism closely resembling the gonococcus, but larger. As described by him, it is a diplococcus, having almost the appearance of a tetrad, owing to a pale streak running

transversely through each half of the organism. It takes the aniline dyes well and is decolorized by Gram's method, but not completely. The culture medium is ordinary glycerine agar, with 5 per cent sterilized garden earth. Growth occurs at 35 degrees C. in from two to seven days, in the form of small whitish gray, semi-transparent colonies.

He gives the following reasons for believing this diplococcus scarlatinæ to be the causative factor in scarlet fever :

1. "Because the germ is invariably present in the throat secretions, blood and scales of a patient having scarlatina, and because it is a separate and distinct organism, not heretofore described.

2. "Because it has been proved to be a pathogenic micro-organism, killing mice, when injected in minute quantities in a space of time varying from less than one to twenty-four hours, according to its virulence.

3. "Because it produces in swine, a disease whose macroscopical lesions closely resemble those seen in scarlet fever as it occurs in the human patient.

4. "Because the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth.

5. "Because the subcutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis.

6. "Because personal experiment apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal from invasion of the germ."

Gradwahl in the *Philadelphia Medical Journal* (March 24, 1900) confirms the finding of Class' diplococci in scarlet fever cases. He discovered it in each of seven cases at periods in the disease varying from the first week until convalescence. Cultures from blood revealed the diplococcus in four cases, and in one case pure cultures were obtained from the urine. He reproduced the disease by inoculation into the vein of the ear in swine (two cases), a rash appearing eight or ten days after inoculation. One animal recovered, was killed and autopsy revealed acute nephritis. The diplococcus scarlatinæ was found in both blood and kidneys.

Baginsky and Sommerfeld have also announced the discovery of a micro-organism, which they claim is always present in throat secretions and the blood of scarlet fever patients.

Class in the *Journal of the American Medical Association* (September 29, 1900) discusses their claims and concludes that their micro-organism is identical with the one previously discovered by himself.

SOURCE OF THE CONTAGIUM.

The chief source of infection is the patient himself, although it seems probable that the area of contagion is limited to a radius of a few feet. Secretions from the nose and throat, the epidermic scales, the excretions (urine, fæces and perspiration), the serum of vesicles, as well as the purulent discharges from nose, throat, ear and suppurating glands may be the source of infection to others. From whatever source the micro organism comes, it may be disseminated by the clothing of the patient, doctor or nurse, the bedding, books, letters, merchandise, papers, foods, dust and do-

mestic animals. Many cases of the disease have been traced to cats or dogs that have been fondled by affected children, and then allowed to go from the sick room and mingle with other children, who have not had the disease, and who have not been otherwise exposed to the infective principle.

Letters have carried death into distant families, and Sajous' Annual mentions the case of a little boy, 2½ years of age, living in a district which had been free from scarlet fever for many years, in which investigation showed the cause of inoculation to be a letter received a few days before the little patient was taken sick, from his grandparents, stating that a child living with them was just convalescing from an attack of scarlet fever and was "shedding her skin," a few pieces of which were enclosed. The letter and contents were used as playthings by the little boy, and in one day he was taken sick. Infection has been traced to bedding which was aired in an open window on the side next to another house in very close proximity. Simply washing infected clothing, the handling of toys and books, dust on window ledges or facings, or in cracks in the walls or retained on the wall paper, all these in rooms infected, and where no adequate disinfection has been practiced, have caused new cases, occurring weeks or months after all thoughts of the disease had disappeared from the minds of the family occupying the house. Foods often disseminate contagion, and milk has been thought to be a good medium.

Power and Klein, in London in 1885, traced an epidemic to milk obtained from one dairy, the original cause of the milk infection not being definitely determined.

The scarlet fever micro organism is much more tenacious of life than that of any other disease, with the possible exception of small pox, and hence the above mentioned carriers of infection may continue the disease and cause its development after long periods of time, and cases are on record where playthings have caused an outbreak of this disease after seven years from the time of known exposure.

MODE OF ENTRY INTO THE SYSTEM.

The most common way seems through the respiratory mucous membrane proven by the early involvement of the pharynx, and also by the fact that tonsillar troubles markedly predispose to infection.

That the alimentary tract may be the route of infection is also proven, by cases resulting from ingestion of infected food, to be referred to hereafter.

PERIOD OF INCUBATION.

Much difference of opinion exists as to the incubative period of this disease. The Indiana State Board of Health and the Chicago City Health Board give it as from one to seven days; Ginon, four to five days, and in the United States Army Report some years ago, Surg. Gen. Hamilton gave it as from one to three or four days. Williams in a collected report from the London Clinical Society in 1892, collated several hundred cases, and gave the average time as two or three days, minimum time, twenty-four hours, and the maximum, seven days. Clement Dukes, after twenty-eight years

of experience in Rugby School (*London Lancet*, April 29, 1899) gives the shortest period as twenty-four hours, and the longest nine days, stating that in 59 per cent it was between two and four days. In almost 90 per cent of all cases the incubation period is between two and six days (Osler). Many writers heretofore claimed to have treated cases where the incubation period varied from fifteen days to three weeks, but in most of these cases, doubtless, careful investigation would have shown that there had been several exposures, some of which were much more recent than those which were thought to have produced the disease. I am inclined to think that seven days is the longest period during which the disease can be developed from previous exposure.

TIME OF GREATEST DANGER OF INFECTION.

Much difference of opinion exists as to the time of greatest infectiveness in this disease. It is probable that during the incubative period, it is not infectious, but from the moment that fever develops or throat manifestations are found, the disease is certainly communicable to others, and the period of greatest intensity so far as infectiveness is concerned, is probably when the disease is at its height. No one doubts that from the development of the first symptom by which it can be recognized, contagium is present, and the disease, therefore, communicable to others.

The stage of exfoliation certainly shows marked power to infect others, as does the discharge in the ear troubles occurring as sequelæ to scarlet fever.

DURATION OF CONTAGIOUS PERIOD.

Holt places the average period at six weeks or until desquamation is complete. Others discharge mild cases in three weeks, but as early infection comes chiefly from nose, throat and possibly breath, and late infection from

1. Purulent otitis;
2. Rhinitis;
3. Chronic pharyngitis;
4. Suppurating glands;
5. Eczema;
6. Empyema and
7. Possibly urine in nephritis;

no definite time will answer in all cases. We must not err in this matter, and as long as any possibility of infection from any of the above causes exists, we must insist on the isolation of the patient, and carelessness, on the part of the physician, in such cases is criminal.

IMMUNITY.

One attack confers immunity usually for life, yet some have had this disease two and even three times, if we are to believe some of our best diagnosticians. The second attack usually proves very mild in character and is found only in very susceptible persons, and this susceptibility seems to run in families.

PREDISPOSING CAUSES.

Scarlet fever is a disease of childhood, and while this is true, no age, strictly speaking, is exempt, but a large majority of all cases, occur before the age of eleven years, and susceptibility decreases rapidly from that age. The period at which the highest susceptibility is shown is stated to be five years. It is very mild the first year, but this may be due to the fact that infants are seldom exposed to the disease occurring in other families. The susceptibility then increases rapidly from the first to the fifth years, when it reaches the greatest degree, and a marked decline increasing to the age of twenty-five years is noted.

SEX.

Sex seems to exert very little influence, although some claim the female is slightly more liable to the disease than the male. It does seem, however, that the disease is certainly more prone to fatality in the latter than in the former.

PREVIOUS CONDITION OF HEALTH.

As in all disease, poor health means lessened resistance, consequently, children with a low degree of vitality, are more susceptible to the contagium of scarlet fever. Beyond this, previous condition of health has very little to do with susceptibility.

Poor sanitary conditions which often obtain in residences, such as damp cellars, bad ventilation, studied exclusion of sunlight (Nature's germ destroyer) with defective house drainage act strongly as predisposing causes. So many houses have faulty plumbing, that it is worse than no plumbing at all, and much of modern medical literature tells of the impairment of the general health, particularly in children, due to inhalation of sewer air. Diarrhea, sore throats, loss of appetite and anemia are all frequent, while Notter says: "There is undoubtedly a poisonous agency at work when sewer gas is inhaled, which, though it may not directly act, yet so prepares the soil that the system is unable to resist the invading organism when it comes."

The time of year has much to do with the spread of this disease, the period of its greatest prevalence being autumn and winter, largely on account of chilling of surface of the body, and resultant lesions of the respiratory membranes, and the collection of children indoors, particularly in our public schools during these seasons of the year. Hershy says 70 per cent of the cases of scarlet fever come from infection at school.

Knowing scarlet fever to be one of the most infective of all childhood diseases, and also knowing the marked ignorance of the general public regarding its infectiveness, and the different means and sources of conveying it to others, I deem it the duty of this and other medical societies, to prepare articles for publication in the secular press, that all laymen may have placed in their hands the knowledge necessary to throw safeguards around their children, as in this way, the spread of the disease may be greatly limited, and in no other way can we, as physicians, accomplish more good so far as saving the lives of these little ones is concerned.

Puerperal Fever.

By J. T. WOODWARD, M. D.,

LINCOLN, ILL.

Read before Brainard District Medical Society at Lincoln, October 24, 1901.

WHAT pregnant woman but dreads the pains and possible after-effects of child-birth! This paper is supposed to deal with the puerperium, which means the time following the third stage of labor to the entire recovery of the mother delivered of a new-born child, unless some unusual intercurrent disease or pathological condition should intervene within a reasonable time.

Puerperal fever, puerperal infection and child-bed fever are, after enlightenment, considered one and the same disease.

In consulting our authorities some very terse statements are made regarding the nature and prevention of puerperal fever, which conditions I shall treat more particularly, omitting symptomatology.

Child-bed fever is an actual fact, with a tendency not only to mortality, but to morbidity and sterility. Every case of child-bed fever arises from the sèptic infection of some lesion of the parturient canal. By parturient canal I mean the canal beginning at the vulva and extending to the fundus uteri, in all of which extent we find a network of blood vessels and lymph spaces connecting with the torn and bleeding placental site, which occupies about one-third the inner surface of the uterus; after labor a wound surface awaiting only the introduction of septic germs, to either terminate the life or overburden it with woe.

Septic infection is always exogenous, never endogenous in origin.

There are two methods of infection, possibly three. The usual method is by direct contact, as by the fingers of the examining physician, nurse or instruments, and determines a large per cent of all cases. A small per cent of cases have occurred where no object touched them, and may be classed as indirect or autoinfection. This is explained by the fact that the mucous membrane of the vagina, clitoris, and pubic hair contain micro-organisms. We have also cases caused by a previously existing pyosalpinx, which may be explained by the fact that they were formerly exogenous in nature. A more perplexing condition is where there is some cause at work to bring about decomposition of the structures of the mother as where from continued pressure upon the soft parts sloughing occurs.

A third mode, the possibility of which must be admitted, is air infection.

The active agent of infection is a living ferment, or micro-organism, which introduced into a wound surface, becomes dangerous as their elimination is interfered with or production increased. The sources of infection are various and need not manifest themselves to any of the senses. Pus from any source, emanations from the genital track of any parturient woman, lochial secretions, normal or abnormal, menstrual fluid, cadaveric

emanations, as in dissections or autopsies, also the acute infectious disease, diphtheria, erysipelas and scarlet fever.

The nature of bacteria causing puerperal infection has not been fully determined. There are two varieties which are supposed to cause it, being streptococcus and staphylococcus.

The post mortem changes are not the same in all cases and has led to confusion, causing some to believe in various forms of the disease, as also are the names, puerperal fever, puerperal infection and child-bed fever, which I have considered as one disease. Knowing its cause naturally the most essential point is prophylaxis, which may be summed up in an exceedingly simple set of rules.

Make the diagnosis for the stage of labor and presentation as far as possible by external examination of the abdomen, and limit to the minimum the vaginal examinations.

Unless there are grave indications let the bag of waters rupture spontaneously.

Avoid all performances which hasten the first stage of labor.

Avoid unnecessary use of forceps.

Preserve the perineum and vulvar orifice.

Expel the placenta by external means.

Prevent the infection of the lesions.

The operator, assistants and instruments must be sterilized. The field of operation must be sterilized. The table or bed upon which the patient rests must be sterilized. The patient should be removed from any location connecting with a sewer.

Before labor give a bath, douche and enemata, and see that water is passed at frequent intervals.

At the termination of labor keep the hand on the uterus from the time the head leaves the uterus until it is expelled and the uterus is contracted and retracted.

Examine the membranes and placenta, and if any part of the placenta is retained remove it, after which procedure give a uterine douche, disinfect, and then leave it alone.

If weakness follows within three or four hours after labor give a vaginal douche of sterilized water to remove any retained matter.

The measures set forth seem tedious and almost impossible of execution to any one but the most favored practitioner of the city or hospital, and I fear that in an extensive country practice they would require more time than could be spared, and more favorable opportunity than generally offers, but the principles of antisepsis must be adhered to, and the lack of means will be equalized by the robustness of parturient country women, and freeness of country air, and location from contaminating influences.

However, when prophylaxis has failed, or been neglected, and puerperal fever is in progress indications for treatment arise. Ideas in regard to treatment have been as varied as have the views regarding its nature. While no particular treatment I may mention will meet the approval of all, it may not be amiss to state some things which have seemed empirically to be productive of the most beneficial results.

Since the patient is in a more of less weakened condition from the effects of labor and loss of blood, and as infection tends to prostration of the vital forces, we should avoid any treatment which would weaken the patient by reducing her strength or depressing her nerve power.

Since we know that most cases are caused by the entrance of the micro-organisms through the wounded canal the two indications are, to shut out those about to enter, and to throw out those already in possession. The first indication is met by washing the vulva, vagina and uterus with an antiseptic fluid and by sealing the openings of veins and lymphatics by mild chemical cauterization. The second indication is met by general treatment, in which respect we can do nothing but sustain the vital forces while the system frees itself from the microbes and their poisons. It is necessary sometimes to thoroughly curette the uterus.

The selection of food and use of stimulants are important items insomuch as they sustain the vital forces.

The medicinal treatment should be such as to lessen the force of the circulation and diminish temperature without exhaustion. To lessen the force of the circulation both aconite and viratrum viride are beneficial. To lessen temperature, quinine in large doses (sometimes the coal-tar derivatives) combined with a stimulant are recommended.

In high fever cold proves effective applied either by the ice cap, water bag or wet cloths. In the opposite condition, where there is coldness and threatened collapse, heat should be applied.

In case there is weak pulse and tympanitic distension of the abdomen, turpentine stupes to the abdomen and opium in sufficient dose to cause sleep.

Evacuant remedies have been used in the hope that the poison might be eliminated. Some claim to have aborted an attack by a large dose of magnesia sulphate. Efforts have also been made at internal antisepsis.

The various structures attacked and the complicating and intercurrent diseases might be mentioned, but the conditions of this paper does not warrant a lengthy inquiry into minor details. If the grave points of the disease are properly appreciated and treatment applied, the complications can be treated as indications arise. The point to keep in view is antiseptic midwifery.

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Tonsillitis.—

℞ Tinct. guaiaci ammon.....
Tinct. cinchonæ comp.....aa 3j
Potass. chloratis..... 3ij
Mellis..... 3vj
Acaciæ, q. s. ad..... 3iv

M. Sig. A teaspoonful used as a gargle in a little water three or four times a day. Swallow a half-drachm or one drachm three times a day; children will swallow less.—*Med. Rec.*

Monographs on Nervous Diseases

With Especial Reference to Hygiene, Nursing and Therapeutics.

Neurasthenia.

BY F. SAVARY PEARCE, M. D.,

PHILADELPHIA,

Professor of Nervous and Mental Diseases in the Medico-Chirurgical College of Philadelphia; Neurologist to the Philadelphia Hospital.

NEURASTHENIA is a functional disease in which there is general depression of the nervous system, hence the very trite name—nervous exhaustion. While still denominated a functional disease, neurasthenia is really upon the border-line of organic disorder, since Hodge has proven cellular changes takes place in the honey-bee when exposed to overwork. The difference, however, lies in the fact that degeneration in the nerve cells in neurasthenia is never so far advanced but what function and structure can be restored, although there must always be present some biochemical change.* The terminal cases, so called, I doubt not would show organic change in the central neurons. Neurasthenia is more common in the educated classes, and is prevalent among those who are overworked mentally; a cart-driver almost never developing this form of tire. The symptoms are general lassitude; loss of memory; irritable weakness of the muscles without movement of them save for the presence of fine tremor—there is also general hyperesthesia and supersensitive of special senses, as of the eye and ear, and though sleep may be good, the patient wakens with a feeling of exhaustion. There are very often dyspeptic symptoms, so-called gastric neurasthenia, when this predominates.

The ideal care and nursing is embodied in Dr. S. Weir Mitchell's so-called rest-cure, in which the four essentials are, beside the rest: Isolation, forced feeding, massage and Faradism. This treatment should be carried out in detail in a certain minority of cases.

The so-called partial rest treatment, consisting of the patient lying abed part of the day, particularly after meals, is successful in the great majority of cases. Hypernutrition is one of the most important factors. The morale of the case should be carefully guarded.

Such patients do not do well at high latitudes (above 2000 feet).

HYSTERIA.

We shall not rehearse symptoms of this ubiquitous disease.

The care of the hysterical patient demands a keen insight into human nature. It is in this disease that the doctor and nurse through judicious sympathy, alternating with rigidity of discipline that the "paralyzed will

* See paper by the writer, "Further Laboratory Studies on Uric Acid in Neurasthenia, and on Autointoxication in Nervous Disease." American Journal of Insanity, No. 1, 1900.

power" (for such is not an inapt description of the psychological state) greatly assists earlier and more complete cure of the patient. It is essential in managing this disease to know the history, the heredity of the affection or not, and then to learn the predisposing and exciting causes which have led up to the "attack," be it a passing syncope, or convulsion, or other form of the acute malady. It is in these cases where especially, as some author has well said, the nurse should have an eagle's eye, a lion's heart, and a lady's hand in dealing with the case; one of those optimistic Greek maxims which gives vitality to all action. In treating the chronic case of hysteria, you will find that 90 per cent of the cases cannot be aroused to sudden cures through such agents as hypnotism, mental suggestion and the like, and while these measures should be practiced in selected cases by the physician with the nurse's aid, still a happy discretion in knowing when to abandon these more mysterious methods of cure, successful as they are at times, is to be impressed upon us. Therefore, in treating such cases, it should be ever present in mind, that these quicker and rarer forms of treatment cannot be continued when we have learned that there has been no improvement in the symptoms. Local paralysis or spasms of a hysterical nature are in my experience more easily controlled by sudden psychic influence, as by hypnotism. In more general symptomatology, whether it be paralysis motor or sensory, or of contractures, the subconscious state is much more difficult to influence quickly. In these cases, the nurse, who is more constantly in attendance than the physician, by lending a spirit of hopefulness in pointing out to the patient from day to day, improvements observed by the physician, will reinforce therapeutics greatly. And our nurses should be better instructed in this fact, that when the lowest ebb of will power is established over years and months in these chronic paralytic forms of hysteria, that nerve energy occasionally is never restored, and, therefore, function remains in abeyance without any pathological lesion taking place other than those accompanying malnutritional states. The greatest exciting cause of hysteria is some form of fright, as is instanced in the case under the writer's care, who was awakened by a rat running across the bed, since which time she has had hysterical stigmata with generalized functional tremor. Another instance is that of a young woman* who fell down a flight of seven steps without any serious bodily harm, although a pain in the back led her to believe that she would be paralyzed, which she finally was. She has now been bedridden for three years with hysterical contractures, anesthesia of the lower limbs up to the knees, and once a clonic hysterical spasm of the abdominal muscles; which latter was cured by producing the initial stage of ether anesthesia. It will take many months before this woman can be impressed enough to show signs giving ground for hopeful prognosis to the physician. I mention these rare cases so that nurses will understand that nervousness is not all foolishness, and has some basis for its existence, perhaps, in the theory of dendrites of the neurons, and, therefore, the diverting of the nerve currents irregularly, which is very likely the fact.

International Medical Magazine, September, 1901.

Nerve energy is to our mind but the most refined form of electricity. There are some physiological phenomena, which tend to prove this, as in the sense of light-flash perceived when the oculist severs the optic nerve in enucleation, or in the sudden restoration of power and sensation following nerve suture as in a case of traumatic separation of the ulnar nerve recently seen by the writer.

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Prostatic Hypertrophy.—A formula quoted from Guiteras by the *Med. Record* is:

Tinct. belladonnæ..... *m*viiss
Potassii acetatis .... gr. xv
Aquæ menthæ pip., q. s. ad..... ℥j
M. Sig.: This dose t. i. d.

Treatment of Eczema of the Vulva.—Ravogli's treatment for eczema of the vulva is set forth in Reed's Text-Book of Gynecology as follows: Ichthyol in various combinations is the chief therapeutic agent, and where properly carried out the treatment is successful. Care of the condition of the vagina is the first step. Twice a day irrigations with a solution of sodium biborate are employed; then every two days a tampon saturated with 25 per cent ichthyol in vaseline or glycerine is inserted. This is kept in place for twelve hours. The following external application is prescribed:

Acidi carbolici..... ℥i
Glycerini..... ℥ii
Alcoholis ..... ℥ii
Aquæ rosæ..... ℥iv
M. Fiat limimentum.

This may cause some burning, but it relieves the itching, and sterilizes the skin. Then pieces of lint saturated with the following formula are applied by the patient:

Ichthyolis..... ℥ii
Olei amygdalæ dulcis.....
Aquæ calcis .....aa ℥iv
Glycerini .....
Aquæ rosæ.....aa ℥i
M. Fiat linimentum.

After repeated applications of the above the surface of the skin heals, the pruritus lessens, the swelling and redness nearly disappear, and now the following salve is used to complete the treatment:

Zinci oxidi.....
Bismuthi subcarbonatis.....aa ℥ss
Acidi carbolici..... gtt. x
Vaselini flavi..... ℥i
M. Fiat unguentum.

Some redness of the skin may remain, for which the carbolic lotion should be used twice a day, and, after drying, a dusting powder of starch or rice, combined with oxide of zinc or subcarbonate of bismuth should be employed.—*Med. Rev. of Revs.*

Fortnightly's Post-Graduate Course

In this department we will present a series of Practical Papers for the General Practitioner, written expressly for this magazine by the leading Medical Writers of the Twentieth Century.

DISEASES OF THE LUNGS AND PLEURA.*

A Series of Papers written expressly for this magazine, by

BY ALBERT ABRAMS, A. M., M. D. (Heidelberg),

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Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital

[CONTINUED FROM PAGE 737.]

DISEASES OF THE RESPIRATORY SYSTEM.

DISEASES OF THE LARYNX.

Laryngeal affections may simulate disease resident elsewhere in the respiratory tract, therefore a succinct perspective of the diagnosis of such affections is germane.

Laryngeal Cough.—In acute laryngitis the cough is usually dry and is provided by phonation or attempts at forced inspiration. In children, the cough assumes a brassy or metallic character (*false croup*), and in adults, the same character of croup is present when edema complicates the laryngitis. In membranous croup, as well as in edema of the larynx, the cough gives the impression of suppressed. A paroxysmal cough evidently of nervous origin, is frequently discharged from the larynx. The diagnostic features of such cough are: their intensification when the patient is under observation; their evanescence during sleep, the absence of disease by laryngoscopy, and finally, their disappearance by suggested methods of treatment.

Laryngeal Dyspnea.—Obstruction of the larynx from any cause may induce dyspnea. Such obstruction may be due to spasm, inflammatory or edematous swelling of the tissues in or about the larynx, tumors or foreign bodies, cicatrization of ulcers after lupus or syphilis and to paralysis of the laryngeal adductors or abductors. Laryngeal dyspnea is characterized by the following signs:

1. The larynx rises and falls during respiration and the spaces above the sternum and at the sides of the trachea are drawn in with each inspiration.

2. During inspiration, there is recession of the epigastrium and the ribs at the base of the thorax, evidence which indicates that an insufficient

* The first paper of this series, on "Cough," appeared in our issue of August 25th, 1900, and the following have appeared in their order: "Pulmonary Atelectasis," "Relation of Respiratory Diseases to the Circulatory Apparatus and the Nervous System," "X-Ray Examination in Diseases of the Chest," "General Therapeutics of Pulmonary Diseases."

amount of air enters the lungs. The dyspnea of laryngeal genesis may be inspiratory or expiratory, and depends on whether the obstruction to the entrance of air into the lungs occurs during in or expiration. As a rule, the dyspnea is inspiratory. Fever is present in acute laryngitis and tuberculous affections of the larynx, and cyanosis is almost an invariable concomitant, the degree of which being dependent on the nature of the obstruction.

Dysphagia.—Difficult swallowing is associated with inflammatory and destructive affections of the larynx.

Dysphonia.—Changes in the voice are frequent when from any cause there is interference with the action of the vocal cords. Functional dysphonia and aphonia are common in hysteria and are psychogenic, appearing and disappearing suddenly, and subjective to suggestive therapeutics.

The diagnosis of laryngeal disease is never crucial, unless it receives the corroboration of the laryngoscope. The pathognomonic symptoms of the different diseases of the larynx, are as follows:

Simple Acute Laryngitis (laryngeal catarrh).—The larynx is red and is only slightly swollen. The symptoms are gradual in development. Fever is usually slight, and dyspnea is, as a rule, absent. In children the clinical picture is different, owing to the relatively narrow glottis. The slightest grade of catarrh occasions dyspnea and occurs suddenly, usually at night, associated with crowing inspiration and hoarseness. The paroxysm lasts but a few minutes, but may persist for an hour, or even longer, to recur on the subsequent night or several nights, depending on the duration of the laryngitis. Such paroxysms have been specified as *pseudo-croup.*

Laryngitis Sieca.—This is a modified form of laryngitis characterized by the nature of the catarrhal secretion, which dries easily, and forms crusts which cling to the mucosa.

Laryngitis Chronci.—The laryngoscopic picture shows a moderate or intense bluish-red coloration of the mucosa associated with induration of the inflamed parts and the development of nodules on the vocal cords (*chorditis tuberosa*). Erosions may be present and the motility of the vocal cords is impaired, owing to the induration and paresis of the laryngeal muscles. The chronic form of the affection may be the continuation of the acute form, or may be associated with chronic pharyngitis, or be dependent on a tuberculous or syphilitic dyscrasia.

Laryngitis Diphtheritica (diphtheritic croup).—The presence of a membrane in the larynx is characteristic. The affection is usually epidemic. Paroxysms similar to those of pseudo-croup develop, but unlike the latter, they are progressive without remission. The fauces are red and often show a diphtheritic membrane.

DIFFERENTIAL DIAGNOSIS.

Diphtheritic Croup.	*False Croup.*
The symptoms of laryngeal stenosis are usually preceded by cough, hoarseness, fever and angina.	Paroxysms occur suddenly in apparent health.
The paroxysms are progressive.	The paroxysms are of short duration.
A membrane may be detected in the fauces.	No membrane.
The laryngoscope shows a membrane.	No membrane.

Edema Laryngis (glottis edema).—According to the site of the edema and its extent, the affection may be latent or associated with signs of suffocation. The diagnosis is, as a rule, easy, insomuch as the enormous swelling of the epiglottis may be seen without the laryngoscope, or felt with the finger. Determining the etiology of the affection is more difficult. The causes may be as follows: 1. As a complication of laryngitis or other diseases of the larynx. 2. As a complication of diphtheria, erysipelas or cellulitis. 3. As a complication of the acute infectious diseases. 4. As a result from stasis in cardiac diseases, mediastinal growths or thyroid disease. 5. As a complication in Bright's disease or cachectic affections, like carcinoma, amyloid, degeneration, etc.

Malignant Tumors of the Larynx.—They occur late in life and rarely extend over a period lasting from six to nine months. Enlargement of the cervical glands, rapid emaciation and cachexia. The laryngoscope offers the most certain means of diagnosis.

Laryngeal Tuberculosis.—The laryngoscopic picture in the early stage shows anemia, paresis of the vocal cords, and a diffused catarrh. If indurations are present, they taper off gradually into the normal tissue. The latter picture is also characteristic of syphilis, but is often unattended with the evidence of local anemia and inflammatory signs.

If ulcers are present, they do not extend rapidly and are extremely painful. Fever is usually present. The laryngeal secretion may show the presence of tubercle bacilli. It may be necessary in order to establish a diagnosis, to remove a piece of the diseased tissue for microscopic examination or inoculation. The latter procedure is more certain, insomuch as the laryngeal secretions may have emanated from the lungs.

Laryngeal Syphilis.—There is usually a history of infection. The absence of pain characterizes ulcerations, if present. Fever is usually absent unless complications are present. Ulcers are deep, circular with a clearly defined border, and covered with a whitish-yellow deposit. If present on the upper surface of the epiglottis, or associated with ulceration in the pharynx or cicatrices, they are pathognomonic. When doubt exists whether, the ulcers are tuberculous or syphilitic, the patient should always receive the benefit of the doubt, and vigorous anti-syphilitic medication should be instituted at once.

Paralyses of the Laryngeal Muscles.—The laryngoscope will alone determine the muscles involved. The etiologic diagnosis is equally important, Among frequent causes are laryngeal catarrh and hysteria. Diphtheria, typhus, variola and brain lesions may be responsible. Pressure on the vagus or recurrent laryngeal from a mediastinal tumor, aneurism, tubercular bronchial glands, the apex of a tubercular lung, etc., may cause paralysis.

DISEASES OF THE BRONCHI.

Special Diagnosis.—Affections of the bronchi may exist with pronounced subjective symptoms and yet wholly elude physical exploration. Bronchial affections are characterized by their bilaterality ; there is no percussional dullness, and the rales are more pronounced in proportion to other physical signs and more diffused than in other affections of the respiratory system. There is a permanent absence in the sputa of elastic fibres and tubercle bacilli. There is only one variety of bronchitis which may be unilateral, and that is the variety produced by the *influence bacillus*, which is usually associated with broncho-pneumonic patches. It is a a persistent affection lasting for weeks and accompanied by extreme prostration and cardiac weakness. The presence of rales indicate the site of the bronchitis, and their nature will often determine the stage of the disease in acute affections. Low pitched groaning sounds indicate that a relatively large bronchus is involved, whereas squeaking and whistling sounds are produced in the smaller tubes. Large, bubbling rales are provoked in the larger and fine crackling rales in the smaller tubes. Rales localized in a definite lung area, if persistent, create the suspicion of tuberculosis. If localized in the lung apex, the bronchitis is almost invariably tuberculous (*apex catarrh*). The nature of the fluid in the bronchial tree producing the rales, whether due to mucus, pus or blood can only be determined by the expectoration. In the early stage of bronchitis owing to the viscidity of the secretion and swelling of the bronchial mucosa, the rales are dry, but become moist and bubbling in character when free secretion is established and the affection is undergoing resolution. Rales are frequently confounded with friction sounds. The latter are caused by respiratory rubbing of the pleural layers. When the very minute bronchial branches are implicated in the bronchial catarrh, the rales are extremely fine, resembling the noise produced by throwing salt on the fire, or rubbing the hairs together near the ear, or better still, by moistening the thumb and index finger and separating them rapidly in front of the ear (*sub-crepitant rales*).

TRACHEITIS.

This is a common affection associated with bronchitis or laryngitis. The laryngoscope readily shows tracheal implication. The usual subjective signs are cough with pain over the sternum.

Other Affections of the Trachea.—The trachea may be involved in *diphtheria*, the inflammation extending from the larynx. *Primary tuberculosis* of the trachea is infrequent, and if involved, the larynx is likewise. In *syphilis* the trachea is often the site of tertiary lesions which often eventu-

ate in tracheal stenosis. *New growths* usually involve the trachea by extension from neighboring sites. *Polypi* may be met with.

Tracheal Stenosis.—Causes.—From lesions within the trachea and from pressure without. The most important symptom is gradually increasing dyspnea. The breathing is stridulous, especially during inspiration. The site of the stenosis may be determined by auscultation, which elicits a stridulous sound with its maximum degree of intensity, as a rule, at the site of the stenosis. The laryngoscope is indispensable in diagnosis, excluding, as it does, the larynx as the possible site of the trouble, and furthermore, tracheoscopic examination demonstrates the location of the stenosis. The chief affections conducing to stenosis are: Syphilitic lesions, enlargement of the thyroid gland, enlargement of the tracheal, bronchial and mediastinal glands and aneurism. Stenosis following tracheotomy is caused by the continued pressure of a tracheotomy tube, which causes the growth of granulation tissue followed by cicatricial contraction. Tumors of the esophagus may compress the trachea.

Perforation of the trachea may occur from caseous lymph glands, esophageal growths, aneurism and from pus collections.

Foreign bodies rarely lodge in the trachea. Their presence is easily determined by tracheoscopic examination, or by aid of the Roentgen rays.

BRONCHITIS.

Etiology.—Chill from exposure to cold is the usual immediate cause. The action of cold is as yet a debatable question. The exciting agents of inflammation are invariably present: Pneumococci, strepto- and staphylococci, pneumo bacilli and bacteriunicoli. In a susceptible person such micro-organisms become active in a manner not completely understood. The green color occasionally observed in the sputum may be caused by the bacillus pyocyaneus. We are all familiar with the *specific bronchitis* that is associated with the infectious diseases. In hay fever, influenza and whooping-cough, bronchitis is usually the most characteristic local manifestation. In hay fever, which is evidently caused by the pollen of certain plants, the attack begins with itching, burning of the eyes and lachrymation. There is also prickling or burning of the nasal mucosa, sneezing and a watery discharge. A *vitiated atmosphere* or the presence of dust in suspension in the air may predispose to an attack of bronchitis. The subjects of *spinal curvature* are specially liable to attack, but here we have to deal largely with the effects of such deformities on the circulation of the blood in the lungs. In chronic cardiac diseases, the effects of disturbed circulation is not an infrequent cause. In gout and Bright's disease, bronchitis is not uncommon. Individuals who live an out-of-door life and who practice daily cold ablutions are specially exempt from the affection.

Diagnosis.—Our primary object is to determine whether the disease is acute or chronic; whether the large or small tubes are involved, the nature of the bronchitis, whether simple, plastic or putrid, and finally, to elicit, if possible, the etiology.

Acute bronchitis usually begins with a chill, and is usually accompanied by general malaise, a moderate degree of pyrexia of short duration. The disease runs an acute course characterized by fever, cough and expectoration. There are no physical signs beyond those furnished by auscultation, viz., bronchial rales and accentuation of the respiratory murmur, especially during expiration.

Chronic bronchitis occurs usually in middle or later life, is of long duration, unattended by fever or constitutional symptoms. Cough is not constant, but paroxysmal and recurrent, while expectoration is usually free and abundant. Dyspnea may be present if emphysema complicates the affection. Chronic bronchitis is specially recurrent in cold and damp climates, in the winter months and while cold winds prevail. The physical signs are those of the acute affection but with large moist rales, showing implication of the larger tubes.

Symptoms of Bronchitis in the Large Tubes.—On auscultation we hear large bubbling rales, provided expectoration is free. Pain, referred to the upper chest corresponding to the anatomic site of the large bronchi, is not an infrequent symptom. Fever, if present, is usually slight and of short duration, and the occurrence of free expectoration is usually the signal of its subsidence.

[TO BE CONTINUED.]

DEATH FROM VEHICLES.—According to a report published by the Prussian Government, the number of persons killed last year by vehicles in the kingdom was 2,117. In Berlin alone 103 persons lost their lives in this way. Most of the people were killed by railroads, tramways, automobiles and cycles. More than one-fourth of the killed were children under 15.

DR. CALEB DUHADWAY.—The death of Dr. Caleb DuHadway, of Jerseyville, Ill., which occurred on December 21st, removes another of the older and more prominent physicians of the Middle West. Up to the beginning of his illness, three years ago, the doctor had for a number of years been a power in the profession, and he commanded the confidence of the profession and public to an extent rarely attained by physicians who locate in the smaller cities. His death is a distinct loss to the profession.

FORMULA FOR CHAFING.—For chafing about the groins and under the arms in children, Dr. R. B. Elderice (*Med. Summary*) recommends the following formula:

Ichthyol	1 dr.
Comp. tinct. benzoin	1 dr.
Boric acid (finest powder)	1 dr.
Petrolatum	1½ to 2 oz.

Reports on Progress.

COMPRISING THE REGULAR CONTRIBUTORS OF THE FORTNIGHTLY DEPARTMENT STAFF

MEDICINE.

BY FRANK PARSONS NORBURY, M. D.,

Physician-in-chief and Superintendent Maplewood Sanatorium for Nervous Diseases; Neurologist to Our Savior's Hospital; Physician to Passavant Memorial Hospital; C nsulting Physician Illinois Institution for the Blind; Formerly Resident Physicion Pennsylvania Institution for Feeble Minded Children; Formerly Assistant Physician Illinois Central Hospital for the Insane.

AND EGBERT W. FELL, B. S.,

JACKSONVILLE, ILL.

Registration of Tuberculosis (Flick, *Maryland Med. Jour.*, August, 1901).—That tuberculosis is a communicable disease is well recognized, but its contagiousness is disputed, not only by enemies, but by some friends of the germ theory. In tuberculosis the offending matter does not pass through an intermediary host, but directly from one person to another. Close relationship in the family, or in business, or occupancy of quarters previously occupied by a tubercular subject constitute the mode of transmission in at least 75 per cent of cases, and the more intimate the contact the more likely is transplantation to take place. In contagious diseases, hence in tuberculosis, preventive measures have to do with the host and the prospective host only, and registration is necessary because the host who is the centre of distribution must be the basis of operation. It is held by some that the tubercle bacillus is of secondary importance to the sociological conditions in the spread of tuberculosis. Ease up the burdens of the poor, stop dissipation, and prevent marriage of the degenerate and sickly, they say, and you will not have to bother about the tubercle bacillus. But no matter about the sociological conditions we would have no tuberculosis without the tubercle bacillus, and besides we cannot remedy the sociological factors, and we can destroy the bacillus. Although the disease is universal and has existed in all times and every one is exposed to the contagion, it must be remembered that it is only by prolonged contact that implantation takes place. The possibility of contracting the disease by inhaling tubercle bacilli on the streets, in churches and public places, conveyances, etc., exists theoretically, but does not amount to anything practically, and it is only prolonged intimate contact and exposure to the contagion that needs to be prevented. Immediate sterilization of the matter given off makes a tuberculous patient innocuous. The prevention of tuberculosis is not only practicable but easy. It is simply finding out where every case of tuberculosis is, making it innocuous and sterilizing the quarters which he has occupied when he vacates them by death or removal. The first step necessary for this is registration. How the rest is to be done must be decided by every community for itself. Probably the

best way is the establishment of sanatoria for incipient cases and hospitals for advanced cases. One of the most frequent objections, and probably the most plausible one, made against registration is that it is unnecessary. The attending physician, it is said, can carry out all the measures without the publicity of registration. The fallacy of this is easily seen in the case of the poor. It is among them that tuberculosis is most frequent and that the conditions are most favorable for transmission. Moving frequently, three or four houses may be contaminated during the illness of one person. And the poor consumptive at the stage of his disease when contagion is most intense as a rule has no physician. But even if every consumptive had a competent physician throughout his illness the proper preventive measures would probably not be carried out. The average physician contents himself with telling his patients to be careful about spitting. Spitting into rags is a dangerous practice as the patient soils his hands and the sputum soon dries and is deposited on surrounding articles. The establishment of sufficient preventive measures requires technical knowledge and patient effort which few physicians are willing to give and for which they are never compensated. If boards of health cannot be entrusted to inaugurate the necessary measures the remedy is in reform, not in taking it out of their control. Another objection to registration is that it increases the burdens of the afflicted and brands him as a centre of contagion. But is this based on truth? A case is reported to the officials, who send a printed document containing instructions as to preventing the spread of the disease and give material aid, if necessary; possibly opportunity if furnished the patient to enter a hospital or sanitorium; watch is kept upon the house, and in case of death or removal it is sterilized before it can again be occupied. All this is done quietly and without publicity and the records are confidential and unknown to the public.

Psychic Epilepsy (Courtney, *Med. News*, June 22, 1901).—The disturbances of consciousness and memory proper are the factors in psychic epilepsy which are of greatest medico-legal importance. These are divided into intellectual petit mal and intellectual grand mal. In the simplest form of the petit mal type the loss of consciousness may be very slight, or may last a few moments. The patient may have absolutely no sense of what has happened, or may vaguely see or hear what is happening around him. The intelligence is frequently restored at the end of the absence, or it may be clouded several minutes or hours. In more prolonged attacks there may be varied motor phenomena as end products of perverted ideation. Such attacks come on suddenly after a period of depression and are characterized by confusion, irritability and imperative ideas. The patient may be suicidal, may commit acts of theft or incendiarism, or may leave home and wander around for a longer or shorter space of time. It is among this last group that we find the cases of ambulatory automatism of long duration, which, together with the accompanying amnesia, are very important from a medico-legal standpoint. Whether or not the intellectual grand mal is a pure equivalent to the grand convulsive attack is not fully decided, but it may be safely considered that it is never the first symptom of epilepsy. The grand mal attack begins with very brief prodromes, and is character-

ized by impulsive acts of great violence directed against himself or others, caused by sensations of fear or anger and terrifying hallucinations. He may afterward sink into a deep sleep and awake with a complete amnesia for the attack. The attack may last for hours or weeks with remissions, during which he may be quieter, or may sleep and awaken as thoroughly deranged as ever. The essential feature of the clinical picture is a primary incoherence or dissociation of ideas, the special form which the psychosis takes being determined by the play of passions as well as the number and kind of hallucinations. If the inhibition of the thought process is marked the incoherence is replaced by stuporousness. If incoherence alone is at play there is marked motor excitement which betrays itself by purposeless and senseless acts. He leads a dream life governed by the character of his hallucinations.

The Pre- and Post-Epileptic Psychoses.— The former consist in increased irritability of temper, great anxiety, inhibited ideation and hallucinatory excitation or impulsions lasting a few hours and leading to acts of violence impelled by fear or anger. The post-epileptic psychoses are divided by Binswanger into the following groups: (a) Stuporous condition the result of inhibition of intellectual and motor conductivity. (b) Attacks with automatic acts. (c) Attacks with systematically arranged hallucinating series, like certain dream-pictures. (d) Attacks with stormy hallucinatory irritative phenomena, accompanied by marked incoherence and impulsive acts of violence. Two or more of these forms may be combined. Protracted stuporous conditions are more frequent here than in the so-called equivalent. If of several days duration such attacks are likely to be intensified by periods of motor excitation. This severe type follows in the wake of repeated and serial form of convulsions, the harder the convulsions and the shorter the interval the more severe and protracted will be the mental disturbance which follows. The amnesia which is intimately associated with all types of psychical epilepsy may last for months or years, the patient acting in a manner analogous to one in a normal state and having a memory for his acts which ceases when he "comes to himself." This type usually follows closely upon the very brief and violent insane outbursts which at times constitute the psychic equivalent of the convulsion. In other cases the amnesia is less marked, and fragmentary memories connect the normal with the abnormal state. In the retroactive type the loss of memory goes farther back than the attack itself. Diagnosis.—Before one can say that he is dealing in a given case with an epileptic psychosis he must prove absolutely by such signs as epileptic convulsions, marked or rudimentary, that the person is an epileptic. The epileptic psychosis is never the first symptom of the disease. Vague and ill-defined convulsions dating back to early childhood do not constitute a proof of epilepsy. In the case of a crime it must be remembered that amnesia may be of the retroactive type, and that loss of memory does not prove that the person was unconscious at the time the act was committed. In the same way a retrograde amnesia may follow an outbreak of uncontrollable passion which does not prove irresponsibility. The character of the crimes are of diagnostic importance for, as a rule, they are the automatic execution of a pre-

existing idea and their gravity varies with the ordinary sanity and calling of the subject. Alcoholic mania may be confounded with psychic epilepsy, and it must also be remembered that alcohol is a powerful factor in the production of mental disturbances in epileptics. In raptus melancholicus there is absence of a history of convulsions; it is not followed by the tranquility of an epileptic psychosis, and the ideas of persecution are more fixed. A purely somnambulistic state lacks all impulse to deeds of violence so common in epilepsy.

Urinary Disorders.—American-made drugs which have been successful to a remarkable degree are numerous and have exploded the theory that "made in Europe" must be on the label to insure that a product is reliably efficacious. Cystogen has played an important part in raising the repute of "home-grown" remedies. The employment of cystogen has in a large measure revolutionized the treatment of almost all urinary derangements; in purulent disorders it is par excellence the remedy to use in conjunction with approved local measures, from it formaldehyde is liberated in the urine, making it antiseptic and healing. No less active is it in uric acid conditions; it is in a high degree a solvent and plays an important role in the treatment of lithemia and all gouty conditions. Though on the market but a few years cystogen has gained a popularity with the profession which can only be explained by the fact that it does what is claimed for it.

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Erysipelas.— In erysipelas and traumatic inflammations Dr. J. B. Sloan says, in *Merck's Archives*, that he has derived excellent results from an application consisting of:

℞ Tinct. opium..... ʒiv
Fld. ext. aconite.. ..... ʒij
Ext. belladonna..... ʒiv
Fld. ext. veratrum viride..... ʒiij
Ichthyol.....to make ʒiv

Apply every three hours.

Treatment of Deep-Seated Inflammation.— Dr. Walter T. Slevin (*N. Y. Med. Jour.*) states that after experimenting with different formulæ he at last obtained one which, if properly used, will relieve deep-seated as well as superficial inflammations. The formula is as follows:

Ichthyol ..... 45 grn.
Lead iodide..... 45 grn.
Ammonium chloride..... 10 grn.
Petrolatum.....to make 1 oz.

The substitution of glycerin, rose ointment, or cacao-butter does not alter its efficiency. It should be applied by rubbing upon the inflamed parts. The results of the application in three different cases are described by the author.

Fortnightlettes

PROFESSOR R. T. HEWLETT.—It gives us pleasure to announce that our valued London correspondent, Dr. Richard T. Hewlett, has recently been elected Professor of General Pathology and Bacteriology in King's College.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.— The following announcement has been received: The fourteenth semi-annual meeting will be held in the City of Lincoln, Neb., on Thursday, March 20, 1902. The arrangement committee promises an entertaining social session and banquet after the scientific work of the day is done. You are invited to be present, and to contribute to the program, which will be limited to twenty papers. Titles should be sent to the secretary not later than February 1st. Programs will be issued February 20th. Will you not assist the officers in making the first meeting of the New Year an unqualified success? Fraternally, CHAS. WOOD FASSETT, Secretary.

OUR FRIENDS ON THE ROAD.—As an agency for brightening gloomy days and making the world more attractive generally the detail man is an absolute success. We grow to anticipate the visits of many of the guild, and feel genuine regret that they are not a matter of much greater frequency. The invasion of this field by women, while a slight shock just at first, has been accepted by the profession, and today we look forward to the visit of the detail woman with the same feeling of good-fellowship which we accord to her fellows in the craft. A few women with courage have demonstrated to the world that a woman can be a success in this work and at the same time retain all the nicest of womanly characteristics; she is not officiously making her presence felt anywhere, but by keeping everlastingly pegging away to get business for the house which employs her she has established her right to stay.

BANQUET OF THE ST. JOSEPH MEDICAL SOCIETY.—The annual banquet of the St. Joseph Medical Society was given at the new Metropole Hotel, in St. Joseph, on New Year's eve, and proved a very happy event. The menu comprised all the delicacies of the season, and was much enjoyed by the fifty members who were present. Toasts were responded to by Drs. Griffith and Fryer, of Kansas City, and Drs. Geiger, Potter, Wallace and Deffenbaugh, of St. Joseph. The lay press was represented by Mr. C. L. Rutt, editor of the *Gazette-Herald*, the legal profession by Mr. J. W. Mytton, and the pulpit by the Rev. C. M. Chilton. Each of these gentlemen presented strong arguments to prove their close relationship with the medical profession, Dr. J. M. Bell, President of the society, acted as toastmaster, and his introduction put every one in a good humor. The guests of honor upon this occasion were Dr. J. W. Griffith, President of the Missouri State Medical Society, which meets in St. Joseph next May, and Dr. B. E. Fryer, Chairman of the Committee on Scientific Communications. Both of these gentlemen are sanguine regarding a large and most successful meeting of the State Society at St. Joseph.